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## **Including the Spiritual Dimension in Multimodal Pain Therapy. Development and Validation of the Spiritual Distress and Resources Questionnaire (SDRQ)**

Peng-Keller, Simon ; Moergeli, Hanspeter ; Hasenfratz, Karin ; Naef, Rahel ; Rettke, Horst ; Hefti, René ; Ljutow, André ; Rittmeyer, Isabelle ; Sprott, Haiko ; Rufer, Michael

**Abstract:** Context: Valid instruments for assessing spiritual resources and distress in pain therapy are scarce. The Spiritual Distress and Resources Questionnaire (SDRQ) was developed to fill this gap. Goals: The objective of this study was to investigate the SDRQ's psychometric properties. Methods: We presented the SDRQ to 219 patients with chronic pain conditions and examined its measurement properties, namely reliability and structural, convergent and discriminant validity. To investigate test-retest reliability, the SDRQ was presented a second time to a subsample of 58 randomly selected participants. Results: Factor analysis required a grouping of the 22 SDRQ items into four subscales: spiritual distress, spiritual coping, immanence and transcendence, the latter two representing spiritual resources. Cronbach's alpha was high for spiritual distress (0.93), transcendence (0.85), and immanence (0.81) while it was somewhat lower but still satisfactory for spiritual coping (0.70). The construct validity of the SDRQ was shown by correlations with established measures in the field. Higher levels of spiritual distress were associated with signs of more severe illness, such as emotional distress and pain intensity. Conclusion: The results from this study suggest that the SDRQ is an easy-to-use, reliable and valid screening instrument for assessing spiritual distress, spiritual resources and spiritual coping in patients with chronic pain. The SDRQ has the potential to be used with patients suffering from other chronic diseases and to disseminate the palliative approach to pain treatment to other areas of medicine.

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## Original Article

# Including the Spiritual Dimension in Multimodal Pain Therapy. Development and Validation of the Spiritual Distress and Resources Questionnaire (SDRQ)



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## Abstract

**Context.** Valid instruments for assessing spiritual resources and distress in pain therapy are scarce. The Spiritual Distress and Resources Questionnaire (SDRQ) was developed to fill this gap.

**Goals.** The objective of this study was to investigate the SDRQ's psychometric properties.

**Methods.** We presented the SDRQ to 219 patients with chronic pain conditions and examined its measurement properties, namely reliability and structural, convergent and discriminant validity. To investigate test–retest reliability, the SDRQ was presented a second time to a subsample of 58 randomly selected participants.

**Results.** Factor analysis required a grouping of the 22 SDRQ items into four subscales: spiritual distress, spiritual coping, immanence and transcendence, the latter two representing spiritual resources. Cronbach's alpha was high for spiritual distress (0.93), transcendence (0.85), and immanence (0.81) while it was somewhat lower but still satisfactory for spiritual coping (0.70). The construct validity of the SDRQ was shown by correlations with established measures in the field. Higher levels of spiritual distress were associated with signs of more severe illness, such as emotional distress and pain intensity.

**Conclusion.** The results from this study suggest that the SDRQ is an easy-to-use, reliable and valid screening instrument for assessing spiritual distress, spiritual resources and spiritual coping in patients with chronic pain. The SDRQ has the potential to be used with patients suffering from other chronic diseases and to disseminate the palliative approach to pain treatment to other areas of medicine. *J Pain Symptom Manage* 2021;62:747–756. © 2021 The Authors. Published by Elsevier Inc. on behalf of American Academy of Hospice and Palliative Medicine. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

## Key Words

*Chronic pain, Spiritual resources, Spiritual distress, Questionnaire, Assessment instrument*

## Key Message

This article describes the development and validation of a new instrument for exploring spiritual resources and distress in the context of multimodal pain

therapy. The results indicate that it is an easy-to-use, reliable and valid screening instrument with the potential to disseminate palliative approaches to other areas of medicine.

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## Introduction

The inclusion of the spiritual dimension in healthcare has been recommended by the World Health Organization since 1984.<sup>1</sup> According to the WHO's *Expert Committee on Cancer Pain Relief and Active Supportive Care*, 'spiritual' "refers to those aspects of human life relating to experiences that transcend sensory phenomena. This is not the same as 'religious', though for many people the spiritual dimension of their lives includes a religious component. The spiritual aspect of human life may be viewed as an integrating component, holding together the physical, psychological and social components. It is often perceived as being concerned with meaning and purpose."<sup>2</sup> Based on growing scientific evidence for the therapeutic relevance of the spiritual dimension in palliative care and other domains of medicine,<sup>3</sup> medical associations recommend the assessment of spiritual needs for therapeutic goals, but these recommendations have not yet been widely implemented.<sup>4</sup> Spirituality remains an oft-neglected component of the biopsychosocial model of caregiving in serious illness.<sup>5</sup> Many clinicians report that they lack the required communication skills to address spiritual concerns adequately and therefore avoid raising them.<sup>6,7</sup> However, spiritual needs can only be integrated into care delivery if known to the practitioner. Since patients are not used to bringing up their spiritual needs in conversation with their care-givers, an explicit assessment is necessary.

To incorporate the spiritual dimension into comprehensive healthcare, clinicians should consider both spiritual resources and spiritual distress. As important as it is for clinical practice to identify spiritual distress early, it is equally urgent for a resource-centered treatment approach to focus on spiritual resources as well. Even though a considerable number of questionnaires for spiritual assessment have been developed in recent years,<sup>8–10</sup> valid screening instruments which assess both spiritual resources and spiritual distress are scarce. We therefore created a self-rating instrument, which can serve as a basis for in-depth narrative assessment and exploration, if requested by the patient.<sup>11</sup> The *Spiritual Distress and Resources Questionnaire* (SDRQ) builds on existing instruments (i.e., SpREUK, FACIT-Sp-12, SpNQ; for a description of these instruments, see supplementary file 1) and considers several conceptual, practical and contextual aspects.

McSherry and Ross<sup>12</sup> have formulated the basic requirements for a spiritual assessment in clinical practice. It should (a) be easy to use, flexible and nonintrusive, (b) employ language that encourages participation, (c) refrain from discriminating between different spiritual-religious groups, and (d) exhibit conceptual clarity regarding the spiritual dimension. Moreover, even if an instrument preferably has cross-contextual validity, development and usage always starts in a specific

context. We have thus chosen to investigate the spiritual distress and resources of patients with chronic pain. The focus on chronic pain was chosen for several reasons: First, the undertreatment of chronic pain; second, although previous research has shown that spiritual beliefs, practices and experiences can constitute an important resource in dealing with chronic pain,<sup>13–15</sup> the spiritual dimension has hitherto received little attention in multimodal pain therapy<sup>16</sup>; third, in its complexity, chronic pain is considered a paradigmatic case for various forms of severe chronic disease with a high symptom burden. The aim of the present article is to present the development and psychometric validation of the SDRQ.

## Method

### Study Design

This validation study is part of a larger research project about spiritual care in chronic pain patients. After developing the SDRQ by means of a literature review, secondary analysis of existing data, and focus groups interviews, a cross-sectional multicenter validation study was performed. For this purpose chronic pain patients from five different inpatient departments and outpatient clinics in the German-speaking part of Switzerland were recruited over a period of 12 months (11/2018–11/2019). The ethics review boards of each institution previously approved the study. Inclusion criteria were: 1) aged between 18 and 80 years, 2) suffering from chronic pain, 3) willingness to participate in the study, and 4) sufficient German language skills. Exclusion criteria were: 1) pain associated with life-threatening disease, and 2) levels of cognitive impairment that would hinder participation. Written informed consent was obtained from all study participants before entering the study. To investigate SDRQ's measurement properties it was proposed to use the COSMIN taxonomy as described in Mokkink et al.<sup>17</sup> Assessing the instrument's reliability by internal consistency and test–retest reliability was regarded as relevant. The content validity of the instrument had already been covered in the preceding phases of development. Structural validity testing should confirm the proposed dimensionality of the instrument. Testing correlational hypotheses with established measures in the field intended to inform about convergent and discriminant validity as aspects of construct validity. Since the SDRQ consisted of 22 items, a validation sample size of 220 participants was intended (as recommended by Anthoine et al.<sup>18</sup>). To investigate test–retest reliability, it was planned to present the SDRQ a second time to a subsample of 60 randomly selected participants after a three week-interval.

### Procedure and Participants

The attending physicians checked for inclusion and exclusion criteria, indicated primary somatic and psychiatric diagnoses if present, and estimated the suspected cause of chronic pain. The participants answered on a paper-pencil basis questions regarding sociodemographic data, their pain conditions, and filled in the SDRQ as well as questionnaires used for the purpose of the study. The time required to complete the survey was approximately 60 minutes. Of the 225 patients originally recruited, four chose not to return the survey, and two had to be excluded because they were either too young or too old. This resulted in a sample of 219 cases (97.3%) for statistical analysis. A subsample of 61 participants was asked to fill in the SDRQ again after 3 weeks for the purpose of test–retest reliability, whereof 58 patients returned the questionnaire (95.1%).

Patients were predominantly female (74%) and had a mean age of 52 years. Sociodemographic and illness related characteristics of the patients are displayed in Table 1. The duration of chronic pain was less than 3 years in 29.7%, between 3 and 10 years in 31.6%, and 10 or more years in 38.7% of patients. In the two weeks previous to entering the study they suffered from severe pain more than 11 days. Many patients suffered from primary chronic pain, including unspecific back pain and fibromyalgia (45.2%), or from secondary musculoskeletal pain (30.1%). The proportion of patients with a psychiatric diagnosis was 55.7%. Most prevalent were depressive and somatoform disorders (Table 1).

### SDRQ Development and Description

The instrument was devised using the phase-oriented procedure recommended for the development of patient-reported outcome measures.<sup>19</sup> First, we conducted a secondary-analysis of already existing records of chronic pain patients with the aim of exploring their spiritual concerns and needs.<sup>20</sup> At the same time, we conducted a systematic literature search in electronic databases (Pubmed, CINAHL, PsycInfo) for articles published between 2000 and 2017 mentioning spiritual care assessment instruments. Five authors (SPK, HM, MR, HR, RN) examined each source of literature independently and jointly reviewed dimensions and items in existing spiritual assessment instruments to evaluate their suitability for inclusion in the new instrument. This process also resulted in the interview guide for the focus groups. Patients meeting the inclusion criteria for the focus groups were consecutively recruited in all five participating centers by the local investigators. They likewise recruited health care professionals to constitute interprofessional focus groups, e.g., physicians, nurses, psychologists, and physiotherapists. Accordingly, we conducted and analyzed focus group interviews with 42 chronic pain patients and, separately, 34 health care professionals.<sup>21,22</sup> Subsequently we constructed a provisional

Table 1  
Sociodemographic and Illness Related Characteristics of Patients With Chronic Pain (N = 219)

Variable	Value (% or Mean ± SD)
Female gender	74.0%
Age (years)	51.7 ± 15.0
Grown up in	
- Switzerland (CH)	81.7%
- Europe (except CH)	14.6%
- Other countries	3.7%
Education	
- University/higher college	23.7%
- High school/apprenticeship	53.0%
- Secondary (mandatory) school	14.2%
- Other	9.1%
Marital status	
- Married/living with partner	53.7%
- Divorced/separated	15.1%
- Widowed	4.6%
- Single	26.6%
Denominational affiliation	
- Roman catholic	25.7%
- Protestant	28.0%
- Other Christian denomination	14.7%
- Muslim	6.0%
- Unaffiliated with any religion	17.9%
- Atheist	5.5%
- Others	2.3%
Duration of chronic pain	
- 3 to <12 months	10.4%
- 1 to <3 years	19.3%
- 3 to <10 years	31.6%
- 10 years or more	38.7%
Number of days with pain within the last two weeks	11.6 ± 3.8
Pain intensity on NRS <sup>a</sup> 0–10 (average at days with pain within last two weeks)	5.6 ± 2.0
Hospital Anxiety and Depression Scale (HADS-D)	16.5 ± 8.7
Analgesics	
- Rarely or never	36.7%
- Frequently or daily	63.3%
Supposed cause for chronic pain	
- Primarily somatic	46.6%
- Psychiatric comorbidity	45.7%
- Primarily psychiatric	7.8%
Somatic diagnosis <sup>b</sup>	
- Primary chronic pain	45.2%
- Secondary musculoskeletal pain	30.1%
- Neuropathic pain	9.1%
- Chronic headache/orofacial pain	7.3%
- Chronic postsurgical/posttraumatic pain	4.1%
- Chronic secondary visceral pain	1.8%
Psychiatric diagnosis <sup>b</sup>	
- Depressive disorder	27.9%
- Somatoform disorder	9.1%
- Personality disorder	3.7%
- Anxiety/obsessive–compulsive disorder	2.7%
- Other psychiatric diagnoses	12.3%
Treatment setting: - Outpatient	65.8%
- Inpatient	34.2%

<sup>a</sup>Numeric rating scale.

<sup>b</sup>Primary somatic and psychiatric diagnoses if present.

version of the SDRQ that was assessed for content validity by five nurses and five physicians, as well as pretested by ten chronic pain patients also providing feedback on the instrument's suitability and ease of comprehension.<sup>19,23</sup> They were recruited from the participating healthcare centers.



To compose the final version of the SDRQ, both focus groups and pretests suggested the importance of Rumbold's<sup>24</sup> requirement that a spiritual assessment should "provide a place for religious care but [...] not conflate spiritual issues with religious practice". For this reason, we chose for our questionnaire the terms of *ultimacy* and *transcendence*, which can be understood in both religious and secular terms.<sup>25</sup> However, to not exclude religious persons a priori, we incorporated terms of religious practice and belief in one item each. Likewise, the focus groups showed that the spiritual dimension matters in two ways: as an area of distress and as a resource in coping with illness. Therefore, the SDRQ has been designed as a self-rated instrument to assess spiritual resources, spiritual distress and spiritual coping. While spiritual distress and spiritual coping are often directly related to the disease, spiritual resources are more independent. The SDRQ consists of 22 items covering three subscales: *spiritual resources* (seven items), *spiritual distress* (eight items), and *spiritual coping* (seven items). The items are grouped in that order. The answer format is a six-point Likert scale, with anchors at 1 = *no, not at all*, and 6 = *yes, completely*. Regarding *spiritual resources*, an additional item asks how much the ability to draw on the resources is hampered by the illness. The score of each subscale is calculated by averaging the corresponding items. The resulting scores therefore range from 1 to 6.

### Other Measures

The German versions of the following established instruments were selected to determine the construct validity of the SDRQ: SpREUK, SoMe, FACIT-Sp-12, SpNQ, EUROHIS-QOL, SOC-R, BFI-K, HADS-D (for a description of these instruments, see supplementary file 1). With measures closely related to the SDRQ we expected to find high correlations with these established measures ( $r \geq 0.5$ , convergent validity), e.g., the *spiritual resources* scale was expected to have a high positive correlation with the scales *search*, *trust*, and *reflection* of the SpREUK, and *spiritual distress* was expected to correlate highly (negative correlation) with *spiritual well-being* of the FACIT-Sp-12. With measures conceptually related somewhat to the new instrument, e.g., *sense of coherence* (SOC-R) or *generic quality of life* we expected moderate correlations ( $r = 0.3-0.5$ ), while with conceptually different measures, like most scales of the BFI-K, we expected small correlations ( $r < 0.3$ , discriminant validity).

### Data Processing and Statistical Analysis

Data entry and data monitoring were completed using the REDCap electronic data capture tool.<sup>26</sup> Statistical analyses were performed using IBM SPSS Statistics (Version 25). To compute the scale-scores of all measures (sum or average scores), missing replacement by case mean substitution of available items was performed.<sup>27</sup>

Missing replacement was done allowing at most one item per scale or 20% of items to be missing (e.g., 2 missing items of 10 items). Internal consistency was calculated using Cronbach's alpha. Exploratory factor analysis of the SDRQ using principal component analysis and varimax rotation informed about the fitting with the expected dimensional structure. The adequate number of extracted factors was estimated by inspecting the scree plot. Pearson correlations were calculated to test hypotheses regarding construct validity and test-retest reliability. Cohen's<sup>28</sup> established convention (small:  $r = 0.1$ , moderate:  $r = 0.3$ , large:  $r = 0.5$ ) was used to interpret the strength of relationship between two scales.

## Results

### Original Subscale Analysis

Reliability analyses for the original subscales of the SDRQ yielded high internal consistency for all three subscales (Table 2). Cronbach's alpha ranged from 0.86 to 0.93. Corrected item-total correlations showed a

Table 2  
Internal Consistency of Three SDRQ Subscales (Original Grouping of SDRQ-Variables)

Grouped SDRQ-Items	Mean $\pm$ SD	Range	$r_{it}^a$
<i>Spiritual resources</i>			
1 Inspiring places	4.29 $\pm$ 1.76	1–6	0.67
2 Centering activities	4.62 $\pm$ 1.47	1–6	0.59
3 Moments of self-forgetting	4.39 $\pm$ 1.67	1–6	0.60
4 Inwardly strengthening activities	4.76 $\pm$ 1.37	1–6	0.58
5 In contact with transcendence	3.36 $\pm$ 1.88	1–6	0.73
6 Participation in something greater	3.47 $\pm$ 1.85	1–6	0.74
7 Meaningful practices of faith	3.40 $\pm$ 1.84	1–6	0.54
Subscale <sup>b</sup> spiritual resources	4.05 $\pm$ 1.26	1.0 – 6.0	
Cronbach's alpha	.86		
<i>Spiritual distress</i>			
8 Lost meaning in life	2.28 $\pm$ 1.49	1–6	0.73
9 Shattered assumptions	2.63 $\pm$ 1.67	1–6	0.73
10 Loss of inner power	3.24 $\pm$ 1.72	1–6	0.77
11 Emotional suffering	3.70 $\pm$ 1.74	1–6	0.83
12 Cut off from life	3.21 $\pm$ 1.79	1–6	0.80
13 Shattered faith	2.25 $\pm$ 1.56	1–6	0.62
14 Feeling of emptiness	2.56 $\pm$ 1.67	1–6	0.79
15 Desperation	2.82 $\pm$ 1.64	1–6	0.78
Subscale spiritual distress	2.84 $\pm$ 1.36	1.0–6.0	
Cronbach's alpha	.93		
<i>Spiritual coping</i>			
16 Meaningful life despite all	4.26 $\pm$ 1.51	1–6	0.72
17 Meaningful coincidence in life	3.99 $\pm$ 1.49	1–6	0.73
18 Generativity despite illness	4.61 $\pm$ 1.34	1–6	0.72
19 Acceptance of illness	4.09 $\pm$ 1.57	1–6	0.47
20 Anchor in life despite illness	4.54 $\pm$ 1.54	1–6	0.67
21 Orientation in life	4.13 $\pm$ 1.62	1–6	0.69
22 Discovery of deeper life dimension	3.44 $\pm$ 1.72	1–6	0.47
Subscale spiritual coping	4.13 $\pm$ 1.15	1.3–6.0	
Cronbach's alpha	.86		

SDRQ = Spiritual Distress and Resources Questionnaire.

$n = 216-217$  per SDRQ-subscale (few missing values in some items).

<sup>a</sup> $r_{it}$  = corrected item-total correlation.

<sup>b</sup>Subscale scores are calculated by averaging the corresponding items.

good fitting of all items to the corresponding subscale. Mean values of items indicated commonly higher item popularity for the items of the subscales *spiritual resources* and *spiritual coping* compared to *spiritual distress*. This was reflected in differing subscale scores. For instance, *spiritual resources* scored significantly higher than *spiritual distress* (paired samples *t*-test:  $t = 8.92$ ,  $df = 218$ ,  $P < .001$ ). Items such as “inwardly strengthening activities” and “generativity despite illness” were scored highest, whereas “shattered faith” and “lost meaning in life” were rated lowest. Concerning the intercorrelations of the SDRQ subscales, *spiritual resources* correlated moderately with *spiritual coping* ( $r = 0.41$ ,  $P < .001$ ) while, as could be expected with opposite subscales directly related to the disease, *spiritual distress* correlated highly negatively with *spiritual coping* ( $r = -0.62$ ,  $P < .001$ ). However *spiritual distress* correlated only slightly ( $r = -0.17$ ,  $P < .05$ ) with *spiritual resources*. Test–retest reliability was high for *spiritual resources* ( $r = 0.80$ ) and *spiritual distress* ( $r = 0.85$ ), and satisfactory for *spiritual coping* ( $r = 0.68$ , all  $n = 58$ ,  $P < .001$ ).

#### Structural Validity: Factor Analysis

The results of exploratory factor analysis of the 22 SDRQ-items are shown in Table 3. Scree plot inspection favored a four-factor solution as the initial

eigenvalues were only above 1 for these four factors. The factor loadings of the items were distinct for the first 15 items of the questionnaire. Items 8–15 loaded highly positive on factor 1 building the subscale *spiritual distress* as expected. With 28.4% this factor explained the highest portion of total variance of SDRQ-items. Items 1–4 and items 5–7, which were expected to build together the subscale *spiritual resources*, loaded positively on two distinct resources factors (factor 3 and 4). In accordance with the substance of the corresponding items, these two factors were named *immanence* and *transcendence*. Taken together, these two resources subscales explained 24.3% of total variance. Somewhat different were items 16–22, which were expected to stand for *spiritual coping*. All these items loaded positively on factor 2, explaining 14.5% of total variance. However, only three of these items<sup>18–20</sup> uniquely loaded on *spiritual coping*, while the remaining items loaded in addition on either *spiritual distress* (items 16, 17, and 21) or *transcendence* (item 22). Thus, items 16–22 built the subscale *spiritual coping*, sharing variance with *spiritual distress* and *transcendence*, whereas items 18–20 represented the core of *spiritual coping*. These three items were labeled “generativity despite illness”, “acceptance of illness”, and “anchor in life despite illness”.

Table 3  
Exploratory Factor Analysis<sup>a</sup>—Four Factor Solution With Rotated<sup>b</sup> Factor Loadings of 22 Items of the SDRQ

SDRQ-Item	Factors and Factor Loadings <sup>c</sup>			
	Factor 1: Spiritual Distress	Factor 2: Spiritual Coping	Factor 3: Immanence	Factor 4: Transcendence
1 Inspiring places			.74	
2 Centering activities			.82	
3 Moments of self-forgetting			.75	
4 Inwardly strengthening activities			.73	
5 In contact with transcendence				.79
6 Participation in something greater				.79
7 Meaningful practices of faith				.83
8 Lost meaning in life	.74			
9 Shattered assumptions	.78			
10 Loss of inner power	.81			
11 Emotional suffering	.87			
12 Cut off from life	.87			
13 Shattered faith	.66			
14 Feeling of emptiness	.80			
15 Desperation	.81			
16 Meaningful life despite all	-.66	.52		
17 Meaningful coincidence in life	-.48	.58		
18 Generativity despite illness		.70		
19 Acceptance of illness		.70		
20 Anchor in life despite illness		.71		
21 Orientation in life	-.49	.61		
22 Discovery of deeper life dimension		.60		.47
Variance explained <sup>d</sup> after rotation	28.4%	14.5%	12.8%	11.5%

SDRQ = Spiritual Distress and Resources Questionnaire.

$n = 213$  because of missing values in some cases (deletion of cases with one or more missing values).

<sup>a</sup>Extraction method: principal component analysis.

<sup>b</sup>Varimax rotation with Kaiser normalization.

<sup>c</sup>Only factor loadings  $\geq 0.40$  are shown.

<sup>d</sup>Total variance explained by four factors = 67.2%.

### Rearranged Subscale Analysis

Factor analysis required a new grouping of several items into the subscales *immanence*, *transcendence*, and *spiritual coping*. The subscale *spiritual distress* was not affected by the new grouping. Table 4 depicts this new grouping of items and the respective subscale analyses. Cronbach's alpha was high for *immanence* (0.81) and *transcendence* (0.85), while it was somewhat lower but still satisfactory for *spiritual coping* (0.70). Interestingly, participants scored higher on *immanence* than *transcendence* (paired samples *t*-test:  $t = 12.0$ ,  $df = 218$ ,  $P < .001$ ). The original subscale *spiritual resources* correlated highly with *immanence* and *transcendence* ( $r = 0.89$ ,  $P < .001$  for both). The original *spiritual coping* (seven items) correlated highly with *three-items-spiritual coping* ( $r = 0.91$ ,  $P < .001$ ). *Immanence* and *transcendence* correlated with  $r = 0.58$  ( $P < .001$ ). *Spiritual coping* (three items) now correlated negatively with *spiritual distress* ( $r = -0.50$ ;  $P < .001$ ), while all other SDRQ-subscale-intercorrelations ranged from  $r = -0.20$  to  $0.33$ . Test-retest reliability was satisfactory for *immanence* ( $r = 0.68$ ), high for *transcendence* ( $r = 0.83$ ), and somewhat low for *spiritual coping* ( $r = 0.59$ , all  $n = 58$ ,  $P < .001$ ).

### Construct Validity

To determine construct validity, the four SDRQ subscales were correlated with established measures in the field (Table 5). As the three-item version of *spiritual coping* was more distinct from the other SDRQ subscales than the seven-item version, it was used for this purpose.

Table 4

#### Internal Consistency of Three<sup>a</sup> Rearranged<sup>b</sup> SDRQ Scales

Grouped SDRQ-Items	Mean $\pm$ SD	Range	$r_{it}^c$
<i>Spiritual resources:</i>			
<i>Immanence</i>			
1 Inspiring places	4.29 $\pm$ 1.76	1–6	0.65
2 Centering activities	4.61 $\pm$ 1.47	1–6	0.66
3 Moments of self-forgetting	4.39 $\pm$ 1.67	1–6	0.62
4 Inwardly strengthening activities	4.76 $\pm$ 1.37	1–6	0.60
Subscale <sup>d</sup> Immanence	4.52 $\pm$ 1.26	1.0–6.0	
Cronbach's alpha	.81		
<i>Spiritual resources: Transcendence</i>			
5 In contact with transcendence	3.38 $\pm$ 1.88	1–6	0.75
6 Participation in something greater	3.48 $\pm$ 1.85	1–6	0.78
7 Meaningful practices of faith	3.41 $\pm$ 1.84	1–6	0.65
Subscale Transcendence	3.42 $\pm$ 1.63	1.0–6.0	
Cronbach's alpha	.85		
<i>Spiritual coping (three items)</i>			
18 Generativity despite illness	4.60 $\pm$ 1.34	1–6	0.60
19 Acceptance of illness	4.09 $\pm$ 1.57	1–6	0.43
20 Anchor in life despite illness	4.54 $\pm$ 1.53	1–6	0.55
Subscale Spiritual coping	4.40 $\pm$ 1.18	1.0–6.0	
Cronbach's alpha	.70		

SDRQ = Spiritual Distress and Resources Questionnaire.

<sup>a</sup> $n = 218$  per SDRQ subscale (one missing value in some items).

<sup>b</sup>SDRQ subscale *spiritual distress* remains unchanged after factor analysis (items 8–15).

<sup>c</sup>New grouping of items after factor analysis.

<sup>d</sup> $r_{it}$  = corrected item-total correlation.

<sup>e</sup>Subscale scores are calculated by averaging the corresponding items.

Consistent with expectations, *spiritual distress* (SDRQ) correlated highly with *crisis of meaning* (SoMe-questionnaire) ( $r = 0.67$ ), *meaningfulness* (SoMe) ( $r = -0.66$ ), as well as *spiritual well-being* (FACIT-Sp-12) ( $r = -0.62$ ). Moderate to high correlations between the remaining SDRQ subscales and *meaningfulness*, *crisis of meaning*, and *spiritual well-being* ( $r = -0.40$  to  $0.59$ ) emphasized how close these constructs are to one another. SDRQ-*transcendence* correlated highly with *search and trust* (SpREUK) ( $r = 0.69$  and  $r = 0.72$ ), as well as *religious needs* (SpNQ) ( $r = 0.58$ ). However, there were only moderate correlations between SDRQ-*immanence* and most SpREUK and SpNQ subscales ( $r = 0.18$ – $0.44$ ). There was a similar pattern of correlation between *transcendence* and *immanence* and self-assessments of spirituality and religiosity ( $r = 0.17$ – $0.67$ ).

As one would expect, *generic quality of life* (EUROHIS-QOL) correlated highly negatively with *spiritual distress* ( $r = -0.73$ ), while the correlations between *generic quality of life* and the other SDRQ subscales were positive and somewhat lower ( $r = 0.08$  to  $0.45$ ). *Sense of coherence revised* (SOC-R), a measure of stress-related resilience,<sup>29</sup> correlated highly with *spiritual coping* and *immanence* ( $r = 0.55$  and  $r = 0.50$ ), providing an indication of the nature of the resources indicated by these subscales. As expected, there were only low to moderate correlations between the five factors of personality (BFI-K) and the SDRQ subscales ( $r = -0.38$  to  $0.29$ ), with two exceptions: *neuroticism* correlated highly with *spiritual distress* ( $r = 0.62$ ) while *openness* correlated highly with *immanence* ( $r = 0.51$ ).

There were some moderate correlations between *spiritual distress* and some sociodemographic and illness-related characteristics (Table 6). *Younger age* was associated with more *spiritual distress* ( $r = -0.26$ ), whereas *higher education* correlated slightly with *immanence* and *transcendence* ( $r = 0.22$  and  $r = 0.21$ ). Signs of a stronger disease, like *pain intensity*, *psychiatric comorbidity*, or *inpatient treatment*, correlated positively with *spiritual distress* ( $r = 0.35$ ,  $r = 0.31$ , and  $r = 0.42$ ). Finally, and unsurprisingly, there was a very high correlation between *psychological distress* (HADS-D) and *spiritual distress* ( $r = 0.81$ ).

### Discussion

The SDRQ has been developed as a self-rated screening instrument for both spiritual resources and spiritual distress to be used prior to initial consultation. This approach has three major advantages: first, it allows a balanced assessment of the patient's current situation, focusing both on the distressful and the resourceful side; second, it gives the patient the opportunity to request or reject the inclusion of spiritual concerns in therapy planning (corresponding question included in the SDRQ); and third, if desired by



Table 5

**Construct Validity: Correlation of SDRQ Subscales With Measures of Spirituality and/or Religiosity as Well as Measures of Quality of Life, Resilience, and Personality Traits**

Measure	SDRQ Subscale			
	Spiritual Distress	Spiritual Coping <sup>a</sup>	Immanence	Transcendence
Spiritual and Religious Attitudes in Dealing with Illness (SpREUK)				
- Search	.01	.20**	.44***	.69***
- Trust	-.14*	.25***	.34***	.72***
- Reflection	.04	.20**	.32***	.45***
Sources of Meaning and Meaning in Life Questionnaire (SoMe, revised scales)				
- Meaningfulness	-.66***	.59***	.45***	.41***
- Crisis of meaning	.67***	-.40***	-.31***	-.15*
Spiritual Well-Being Scale (FACIT-Sp-12)	-.62***	.55***	.38***	.44***
Spiritual Needs Questionnaire (SpNQ)				
- Religious needs	.00	.15*	.20**	.58***
- Existential needs	.28***	-.03	.18**	.40***
- Need for inner peace	.27***	-.07	.30***	.33***
- Need for actively giving	.12	.06	.22*	.38***
Self-assessments				
- Spiritual	-.02	.08	.17*	.48***
- Religious	-.03	.20**	.51***	.67***
Generic quality of life (EUROHIS-QOL)	-.73***	.45***	.25***	.08
Sense of Coherence revised (SOC-R)	-.37***	.55***	.50***	.28***
Big Five Inventory, short version (BFI-K)				
- Extraversion	-.30***	.23***	.26***	.16*
- Agreeableness	-.19**	.14*	.06	.09
- Conscientiousness	-.26***	.21**	.27***	.11
- Neuroticism	.62***	-.38***	-.16*	-.02
- Openness	-.12	.17**	.51***	.29***

SDRQ = Spiritual Distress and Resources Questionnaire.

n = 216–219 per correlation (few missing values in some measures).

Pearson correlations.

<sup>a</sup>Subscale with three items.

\*P ≤ .05, \*\*P ≤ .01, \*\*\*P ≤ .001.

patients, it provides an appropriate starting point for further exploration of these aspects. By including spiritual resources, which may be untouched by the illness and not confined to religiousness, clinicians signal that they endeavor a comprehensive and resource-oriented approach.

We designed the SDRQ to assess spiritual distress and resources in a concise, but differentiated way, using the terms *ultimacy* and *transcendence*, which are open to both religious and secular interpretation. Interestingly, the religious-secular-division reappeared in the factor solution of our instrument: spiritual

Table 6

**Correlation of SDRQ Subscales With Sociodemographic and Illness-Related Characteristics**

Measure	SDR Subscale			
	Spiritual Distress	Spiritual Coping <sup>a</sup>	Immanence	Transcendence
Female gender <sup>b</sup>	-.05	.09	.05	.12
Age	-.26***	.15*	.02	-.04
Grown up in Switzerland <sup>b</sup>	-.12	.19**	.15*	.10
Higher education <sup>b</sup>	.03	.01	.22***	.21**
Duration of chronic pain	.02	.08	.13	.20**
Days with pain within the last two weeks	.25***	-.07	.03	.05
Pain intensity	.35***	-.19**	.02	.07
Analgesics frequently or daily <sup>b</sup>	.27***	-.03	.03	.04
Psychiatric comorbidity or psychiatric cause for chronic pain <sup>b</sup>	.31***	-.16*	-.03	.11
Inpatient treatment <sup>b</sup>	.42***	-.23***	-.16***	.04
Hospital Anxiety and Depression Scale (HADS-D)	.81***	-.44***	-.23***	-.04

SDRQ: Spiritual Distress and Resources Questionnaire.

n = 212–219 per correlation (few missing values in some measures).

Pearson correlations.

<sup>a</sup>Subscale with three items.<sup>b</sup>Point biserial correlation.

\*P ≤ .05, \*\*P ≤ .01, \*\*\*P ≤ .001.

resources were divided into two distinct types. The SDRQ subscale *spiritual resources/transcendence* correlated highly with *search and trust* (SpREUK<sup>30,31</sup>) as well as religious needs (SpNQ; <sup>31,32</sup>), whereas the SDRQ subscale *spiritual resources/immanence* showed only moderate correlations with most SpREUK- and SpNQ subscales. These findings point to a more religious understanding of *transcendence* compared to *immanence*. Among the subscales of the SDRQ, *spiritual coping* (seven items) was the least differentiated from the other subscales, sharing variance with *spiritual distress* and *transcendence*. This may be caused by the fact that both *spiritual distress* and *spiritual coping* are related to the disease or by the close connection between *transcendence* and *spiritual coping* as resources factors. However, the SDRQ allows the calculation of a *spiritual coping* subscale out of three items, which is more independent than the seven items subscale.

From a clinical point of view, it is worth noting that higher levels of spiritual distress were associated with signs of more severe illness, such as higher emotional distress and stronger pain intensity. This may underscore the view that chronic pain is a complex phenomenon affecting mental, physical, social and spiritual dimensions of life and that spiritual aspects should therefore be assessed and integrated in treatment plans.<sup>7,33</sup> However, limiting a spiritual assessment to distressing aspects would neglect what empirical research has proven in many ways: the relevance of spirituality for coping with chronic illnesses and suffering. The SDRQ assesses both dimensions: spiritual distress and spiritual resources. In its structure and with its psychometric properties, the questionnaire satisfies the quoted requirements formulated by McSherry and Ross<sup>12</sup> for a spiritual assessment instrument for clinical practice.

### Strengths and Limitations

The SDRQ has been developed in the light of patients' and healthcare professionals' reported views of religious and secular spirituality. With this balanced focus on spiritual resources and distress, the questionnaire complements existing instruments for spiritual assessment. The participatory research approach ensures that the questionnaire is conceptually and linguistically accessible to the targeted patient group. Since we purposely included health care centers focusing on rehabilitation in addition to those providing acute care when symptoms worsen, the study reflects patient situations at various stages of their individual illness trajectories. The sample produced by this procedure might offer a more complete picture of spiritual concerns and needs of patients.

One limitation of the study is the cross-sectional design based on which causality cannot be determined. Longitudinal evaluations are needed to understand

more precisely the complex relationship between spirituality and pain<sup>15</sup>. Future studies should also investigate if the results of the present study of the SDRQ can be replicated in other countries than Switzerland, because the association of spirituality with disease-related aspects can be highly dependent on the cultural context.<sup>34</sup> A second limitation of this study concerns the decision to exclude patients with chronic pain related to life-threatening diseases. The reason was that patients who are confronted with a life-threatening disease may have specific spiritual needs and concerns that, for example, arise through preparing for death.<sup>35,36</sup>

### Conclusion

The results of this study suggest that the SDRQ is a relatively concise, easy-to-use, reliable and valid screening instrument for assessing spiritual distress, spiritual resources and spiritual coping in patients with chronic pain. Evaluations of the psychometric properties of the SDRQ in patient groups with other chronic diseases are already underway. If the SDRQ demonstrates adequate reliability and validity in these studies, then it promises to be a useful generic screening tool for assessing spiritual distress, spiritual resources, and spiritual coping in patients with chronic diseases, and for disseminating the palliative approach to pain treatment to other areas of medicine. The use of the SDRQ as a screening instrument may help health care professionals to adequately address spiritual aspects in those patients who wish their spiritual needs to be integrated into their treatment.

### Disclosures

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The authors declare that there is no conflict of interest.

The research related to human use complies with all the relevant national regulations, institutional policies, and the tenets of the Helsinki Declaration of 1975, as revised in 2008, and has been approved by the Cantonal Ethics Committee (KEK Zürich 2017\_01229).

### Supplementary materials

Supplementary material associated with this article can be found, in the online version, at [doi:10.1016/j.jpainsymman.2021.02.021](https://doi.org/10.1016/j.jpainsymman.2021.02.021).

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